

The Spiders collected by the Canadian Arctic Expedition, 1913-18.

By J. H. EMERTON.

This collection includes thirteen species, three of which are described as new. Two of these are minute spiders, living under loose stones along the shore, and the third is a large *Lycosa*, living in large numbers among the low plants of the tundra. Of the other ten species, three have been found by earlier explorers in Greenland, Spitzbergen, or Siberia, and appear to be exclusively Arctic; the rest have been found much farther south. The four species from Nome and Teller, Alaska, all occur in the White mountains of New Hampshire, and two of them at various stations across the continent and south into the United States. *Lycosa pictilis*, found at Bernard harbour, has long been known in the upper parts of the White mountains, and is also found on the coast of Labrador. *Xysticus bimaculatus*, found also at Bernard harbour, Dolphin and Union strait, Northwest Territories, is known from the Rocky mountains near Banff and from the mountains of Colorado. The two species of *Pardosa* are widely distributed over the northern part of the continent.

All types described in this paper are in the Canadian National Collection of Insects, Ottawa. The specimens were collected by Mr. F. Johansen.

Erigone arctica White (1852).¹

This resembles the common *Erigone dentigera* of the New England coast. The palpus (Pl. I, fig. 1) has the same general length and proportions, but the process of the patella is somewhat longer, and the end of the tibia wider, with the inner and outer points sharper and more divergent than in *dentigera*. It has been found at Cornwallis island and in Spitzbergen.

Locality: Cockburn point, Dolphin and Union strait, Northwest Territory, autumn of 1914.

Typhocraestus spetsbergensis (Thor.) Kulczynski.²

This is 2 mm. long, and grey, without any markings, the legs very little lighter than the thorax. The male palpus has the tibia a little longer than wide and slightly widened at the end. The front edge is nearly straight except a small tooth on the outer corner, which is slightly curved inward at the point (Pl. I, figs. 2 and 4.) The tarsal hook is small and curved in more than half a circle, the basal end showing along the edge of the tarsus when seen from above. The palpal organ is distorted in all the specimens, but shows the slender transparent appendage and the other details as figured by Kulczynski (Pl. I, fig. 3).

Locality: Three males and two young from Spy island (Jones islands, known also as Thetis islands), on the Arctic coast of Alaska, September 3, 1913, under green algæ on the wet seashore. Found also by the English Polar Expedition of 1875-6 in latitude 82° 33' and in Siberia and Spitzbergen.

Tmeticus alatus, n. sp.

A little over 2 mm. long and pale yellow without markings like pale individuals of *Tmeticus flaveolus* Banks and *T. longisetosus* Em. The male palpus seen from above has the tibia longer than wide with a large curved tooth on

¹ Cambridge, Annals and Magazine of Natural History, 1877.

² Memoirs Acad. St. Petersburg, 1902. Strand, Fauna Arctica, 1906. *Erigone spetsbergensis* Thorell, Swedish Acad., 1872.

the inner side extending a little over the tarsus (Pl. I, fig. 5). Seen from the side the tibia is wider than long (Pl. I, fig. 6). - The tarsal hook is much like that of *longisetosus*, with two short and stout curved teeth at the end and a narrow, long base on which are several hairs and close to the tarsus three long bristles slightly serrated toward the end somewhat like the bristles in *longisetosus* and *armatus* (Pl. I, fig. 6). The epigynum has a middle lobe widened at the end and covered at the base by two depressions divided by a narrow ridge. At the sides of the epigynum are two thickened spots with hairs directed inward (fig. 7).

Localities: One male and two females from Cockburn point, Northwest Territories, September 26, 1914. Four females and one immature male from Bernard harbour, Dolphin and Union strait, Northwest Territories, June 27, 1916.

Tmeticus brunneus Emerton.¹

Nome Alaska, August 25, 1916. Originally described from the White mountains, New Hampshire, at 4,000 feet elevation.

Microneta maritima, n. sp.

Less than 2 mm. long, and dull grey with paler legs. The mandibles are thickened at the base and narrowed toward the point, with two small teeth where the narrowing begins (Pl. I, fig. 8). The male palpi are, as usual in this genus, large, and the tarsus angular. It has a small process at the base and the middle is extended and flattened into a keel bent inward on the outer side. This shows plainly from above or below when the palpus is curved in the natural position, (Pl. I, fig. 10). The tarsal hook is wide in the middle and turned abruptly upward at the point, as in *olivacea* (Pl. I, fig. 9).

Locality: Cockburn point, Dolphin and Union strait, Northwest Territory, September, 1914, under stones.

Microneta crassimanus Emerton.²

Nome, Alaska, August 1916. Originally described from the White mountains, New Hampshire, at 4,000 feet elevation.

Epeira patagiata Clerck (1757.)

Nome, Alaska, August 25, 1916. The most common round-web spider throughout Canada, the northern United States, and the north of Europe.

Dictyna.

Several immature specimens were found under stones along the shore at Bernard harbour, Northwest Territories, June and July, 1915. They are probably *Dictyna hamifera* Thor., 1872, described from Greenland and among the spiders from the "Danmark Expedition" to northeastern Greenland, 1906-8.

Lycosa pictilis Emerton.³

Several specimens of this bright-coloured spider, including two adult males, were found at Bernard harbour, Northwest Territory. It is common on mount Washington, New Hampshire, from 5,000 to 6,000 feet elevation, and has been found on the coast of Labrador at Hopedale. The *Tarantula exasperans* Cambridge, from Discovery bay, latitude 81° 44', is possibly this species. It is described and figured by Cambridge in 'The Annals and Magazine of Natural

¹ Conn. Acad. 1882 and Conn. Acad. 1909.

² Conn. Acad. 1882

³ Conn. Acad., 1885.

History', 1877. *T. exasperans* has been identified by Simon and Kulczynski with *Lycosa (Tarantula) alpigena* of the Alps, but I cannot confirm this identification, not having been able to compare European specimens.

The usual markings are shown in Pl. I, fig. 11. The middle stripe of the cephalothorax has a characteristic form, widening behind the eyes, and narrowing again a little farther back. The hinder half of the stripe, especially in young spiders, continues narrow its whole length, but in other individuals and usually in adult males, it widens again opposite the dorsal groove and is sometimes connected by radiating lines with the light areas at the sides. The abdomen has two orange yellow spots at the front end, and sometimes a little orange colour among the grey farther back. The middle spot branches into four black points, and behind it are two or three black spots of variable size on the middle line. Outside of the median spots are four or five pairs of small, bright, white spots alternating with black, forming two lines converging behind (Pl. I, fig. 11). There are great variations from this pattern and one of the Bernard harbour males is marked as in Pl. I, fig. 12. Here there is a middle stripe, which in life is probably covered with orange hairs, and from this branches extend to the white spots. The other markings are obscured in the general grey colour. This variety has been seen in specimens from mount Washington. In all varieties the legs are banded with dark and light grey.

Locality: Bernard harbour, Northwest Territories. Barter island, Alaska, June, 1914.

Lycosa asivak, n. sp.

This species is 12 mm. to 14 mm. long. Fourth leg as long as the body. Black with light grey markings, which are indistinct and sometimes absent in the female. In the male there is a grey stripe in the middle of the cephalothorax from the eyes backward, and on the abdomen a middle grey mark in front, at the sides of which are light spots which unite behind into several transverse markings (Pl. II, fig. 13). The femora are black, but the other joints of the legs are covered above with short grey hairs mixed with longer black ones. The legs and abdomen are covered with fine black hairs, longer than the diameter of the legs. In the female the dorsal markings are much less distinct and usually form on the abdomen a small middle stripe in front and a series of pairs of small white spots. The legs are somewhat lighter in colour toward the end, but there is no strong contrast between the colour of femur and tibia. The fine hairs of the legs and abdomen are shorter in the female than in the male. The epigynum (Pl. II, fig. 14), has a middle lobe as wide as long throughout its length, and thickened in the middle. At the base of this lobe are two pits with oblique and slightly curved margins. The immature females show the undeveloped epigynum as in Pl. II, fig. 15. The male palpus is much like that of *pictilis*, the tibia is a little longer than wide, and about the same length as the patella. The tarsus is a little longer than the tibia. The parts of the palpal organ are small and comparatively simple, (Pl. II, fig. 16) as in *pictilis*.

This spider appears to be very common and over a hundred specimens were taken, including two adult males in June at Bernard harbour, Dolphin and Union strait, Northwest Territories, and two others at Camden bay, Alaska, July 4, 1914. The females taken at the same time were all immature, but adult females were taken later, July 12 and July 19, 1915, at the latter date with their cocoons and eggs.

According to Mr. Johansen's notes, they hide, especially at the breeding season, in holes in the ground or in the sod which they line with silk. In one case a lemming hole was used for this purpose. They were found eating beetles and other spiders, even of the same species. The accompanying photograph

¹Asivak or arsvuk is an Eskimo name for a spider, with slight dialectic differences from northwestern Alaska to Coronation gulf.

(Pl. III,) taken by Mr. G. H. Wilkins of the Expedition, shows the spider in its natural surroundings near the mouth of its hole.

Localities: Bernard harbour, Dolphin and Union strait, Northwest Territories, from June to September. Two males from Camden bay, Alaska, July 4, 1914.

Pardosa glacialis Thorell (1872).

This widely diffused species occurs at Bernard harbour, Northwest Territories, on the north coast of Alaska, and at Teller, Alaska. The forms of the epigynum differ from those in other places, but differ also among themselves. A female from Teller, Alaska, has the epigynum somewhat like variety *brunnea* of New England (Pl. II, fig. 17).

Pardosa groenlandica Thorell (1872).

An adult female and several young were found at Herschel island, Yukon Territory, July, 1916. It lives across Canada and southward on the mountain tops of Colorado.

Xysticus bimaculatus Emerton.¹

Male 5 mm., female 6 mm. long. Pale with light brown and grey markings. The legs are short, the first leg of the male less than one and a half times the length of the body. The first and second legs are covered with fine light brown spots, with some larger marks on the ends of the femur. The third and fourth legs have brown markings on the ends of the joints. The cephalothorax has the middle light area lightly spotted in the front half. The dark areas are closely spotted with brown, darkest toward the abdomen. The abdomen is marked with three or four pairs of oblique light brown spots, the edges of which are irregularly spotted with dark grey, more definitely in the male than female. The whole under side is lightly spotted with brown. The male palpus has the tibia of usual form with a blunt outer process and a double process below, the inner branch of which is slightly curved at the point (Pl. II, fig. 19). The palpal organ is unusually complicated, the lower half of the bulb very much thickened in a curved ridge that ends in a blunt tooth on the inner side. The tube is short and twisted and turned away from the bulb, and under it is a small sharp point. The epigynum has a simple oval opening.

Localities: A male and female, in grass, Bernard harbour, Northwest Territories, August 25, 1915, and one immature female. Bluffs at lake at Konganevik, Camden bay, Alaska, June 27, 1914, young male and female. Found also in the Rocky mountains at Laggan, Alta., and on mount Lincoln, Colorado, at 11,000 feet.

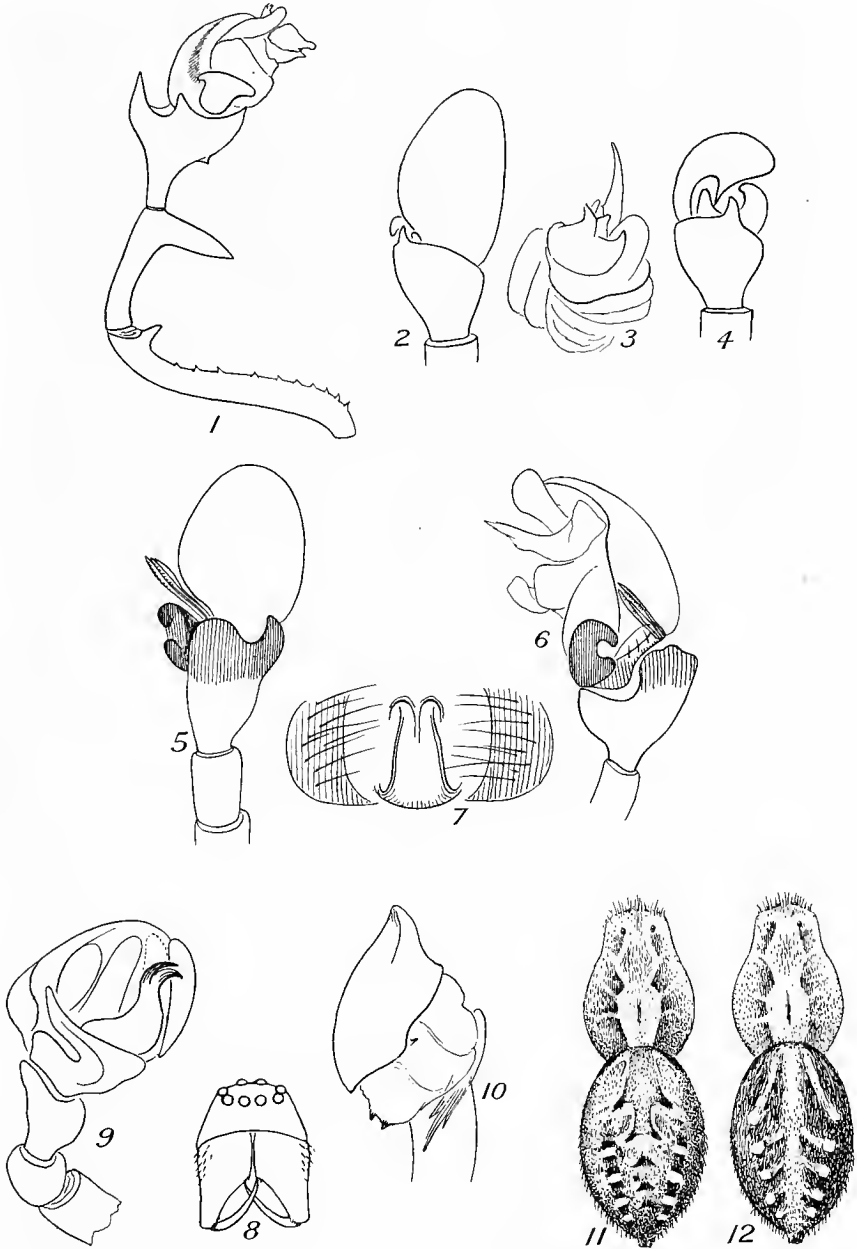
¹Canadian Spiders, Conn. Acad. 1894.

EXPLANATION OF PLATE I.

- Fig. 1. *Erigone arctica*, palpus.
 2. *Typhocraestus spetsbergensis*, palpus (upper side).
 3. " " (palpal organ showing transparent appendage.)
 4. " " (side edge).
 5. *Tmeticus alatus*, male palpus (from above).
 6. " " (side view).
 7. " " epigynum.
 8. *Microneta maritima*, mandibles.
 9. " "
 10. " " palpus.
 11. *Lycosa pictilis*, usual markings.
 12. *Lycosa pictilis*, occasional variation of markings.

PLATE I.

Spiders collected by the Canadian Arctic Expedition, 1913-18.



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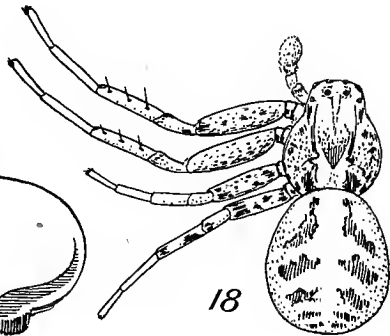
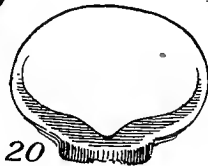
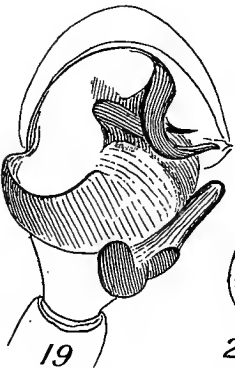
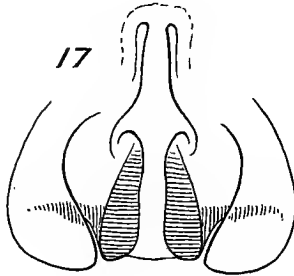
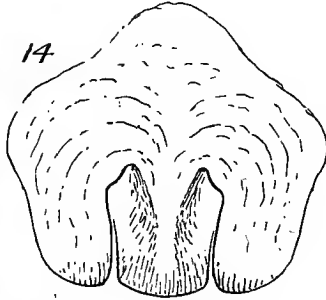
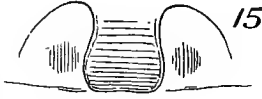
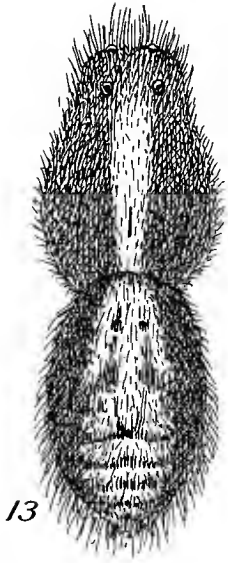
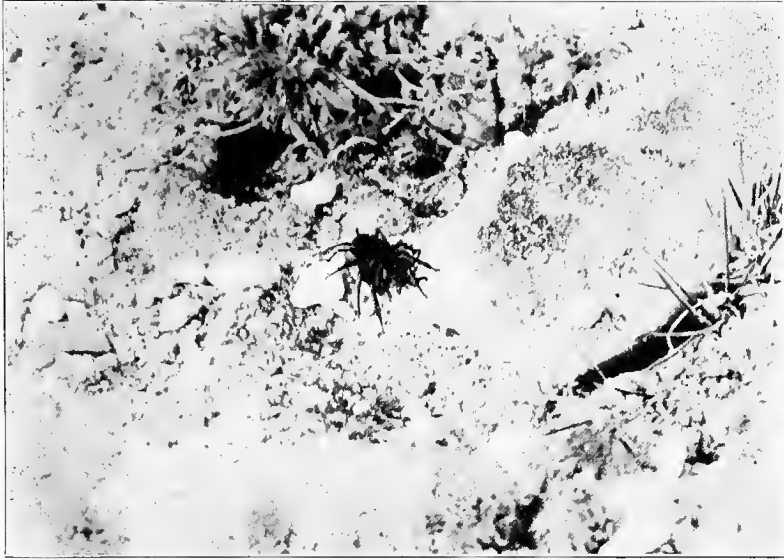


PLATE III.



Lycosa asivak, Bernard harbour, Northwest Territories, July 9, 1915.

EXPLANATION OF PLATE II.

- Fig. 13. *Lycosa asivak*, dorsal markings.
 14. " " epigynum.
 15. " " undeveloped epigynum.
 16. " " male palpus.
 17. *Pardosa glacialis*, epigynum.
 18. *Xysticus bimaculatus*.
 19. " " male palpus.
 20. " " epigynum.